

Application Serial No. 10/616,712
Amendment dated July 28, 2006
Responding to Office Action of April 28, 2006

REMARKS

Attached with this Amendment is a credit card authorization for payment of the RCE fee and surcharge for the extra independent claim.

In the Office Action dated April 28, 2006, the Examiner rejected claims 1, 2, 4 and 5 under Section 102 based upon Kukharev et al. That reference discloses an experiment in which the authors used a thermo diffusion process to form an aluminum and silicon coating on carbon steel. The authors used a master alloy containing 30% rare earth metals, 55% silicon, 8% aluminum and the remainder iron. They conducted the tests at 850°C., 900°C., 950°C. and 1000°C. and reported the coating thickness at 2, 4, 6 and 8 hours in Figure 1. The thickest coating they achieved was less than 250 microns,

By this Amendment applicants have amended claim 1 to require that a coating of at least 250 microns be formed, thereby incorporating into claim 1 the limitation of claim 6.

Accordingly, claim 1 as amended is patentable over Kukharev. Claims 2, 3 and 4 depend from amended claim 1 and are, therefore, patentable. Claims 5 and 6 have been cancelled. Claims 3 and 7 have been rewritten in independent form.

The Examiner rejected all claims under Section 102(b) citing applicants' published application WO 98/20182 published May 14, 1988. This published application claims priority to U.S. Patent Application No. 08/745,199 and contains the text of that application plus additional data on pages 8, 9 and 10 of the published application. The present application also claims priority to U.S. Patent Application No. 08/745,199, filed November 8, 1996, and the pending claims are supported by the priority application. Therefore, the published application is not prior art under Section 102(b). In the Office Action dated April 28, 2006, the Examiner maintained

the rejection based upon this published application saying that to overcome the reference it is necessary to demonstrate that the priority application provides support for the claims. Such support can be found in the examples, other portions of the specification and the drawings.

Example 1 discloses a pack cementation process in which the pack consists of 4 wt.% aluminum, 0.5 wt.% silicon, 0.5 wt.% ammonium chloride and 9.5 wt.% aluminum oxide. A sample of 1018 carbon steel received an aluminum silicon diffusion coating having a thickness of 0.012" which thickness is 304.8 microns. Heating was done at 1500°F. to 1800°F. (815.5°C. to 982°C.) Consequently, the example supports claims 1, 3, 4, 7, 8, 11 and 12.

Example 2 discloses a copper base alloy in which a diffusion coating of as much as 0.008" or 203.2 microns was applied by pack cementation. The pack consisted of 4 wt.% aluminum, 1 wt.% silicon, 1.5 wt.% ammonium chloride and 93.5 wt.% aluminum oxide. The heating was done at 1470°F. to 1500°F. (798.9°C. to 815°C.). This example supports claims 7, 8, 11 and 12.

Page 1 of the priority application discloses use of a pack mix-binder sheet supporting claims 10 and 13.

Figure 2 illustrates a tube being coated and Figure 3 illustrates a plate being coated. Page 5 of the specification says tubes, complex shapes, other work pieces and parts can be coated and mentions "straight portions and return bends" see lines 6-12. This disclosure supports claim 2.

Page 4, line 22, through page 5, line 5, says the "pack mix contains 1-5% aluminum, 0.5-5% silicon, 0.5-3% aluminum halide activator by weight and the balance being an inert filler such as aluminum oxide." This disclosure supports claims 7, 9, 11 and 15.

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Accordingly, all of the claims as amended are fully supported by the priority application, Serial No. 08/745,199, and applicants' published application WO 98/20182 is not prior art as to the pending claims.

For the foregoing reasons the claims are patentable. Reconsideration and issuance of a Notice of Allowance are respectfully requested.

Respectfully submitted,



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